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## (54) HARD COATING FOR CUTTING TOOL, MANUFACTURING METHOD THEREFOR, AND TARGET FOR FORMING HARD COATING

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a hard coating for a cutting tool superior to a TiAlN film in abrasion resistance.

**SOLUTION:** The hard coating is constituted by a compound expressed by (Alb, [Cr<sub>1-a</sub>V<sub>a</sub>]c) (C<sub>1-d</sub>Nd), where the symbols satisfy 0.5≤b≤0.8, 0.2≤c≤0.5, b+c=1, 0.05≤a≤0.95, and 0.5≤d≤1. Alternatively, the hard coating is constituted by a compound expressed by (M<sub>a</sub> Al<sub>b</sub>, [Cr<sub>1-a</sub>V<sub>a</sub>]<sub>c</sub>) (C<sub>1-d</sub>N<sub>d</sub>), where M is at least one selected from the group consisting of Ti, Nb, W, Ta and Mo, and other symbols satisfy 0.02≤a≤0.3, 0.5≤b≤0.8, 0.05≤c, a+b+c=1, 0.5≤d≤1, and 0≤a≤1 (a indicates an atomic ratio of M). However, M and a shall no be simultaneously Ti and zero respectively.

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